UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,522	02/08/2001	Chris O'Rourke	062891.0523	2665

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EXAMINER
SHINGLES, KRISTIE D

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 03/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No. 09/781,522	Applicant(s) O'ROURKE ET AL.
	Examiner Kristie Shingles	Art Unit 2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _19 October 2004_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,9-11,19 and 20_ is/are pending in the application.

    4a) Of the above claim(s) _2-8 and 12-18_ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,9-11,19 and 20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _19 October 2004_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
          application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _10/20/04_.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant has amended claims 1, 19 and 20.

Claims 2-8 and 12-18 are non-elected.

Claims 1, 9-11, 19 and 20 are still pending.

Drawings

1.   The proposed drawing corrections filed on 10/19/2004 have been accepted by the Examiner. The corrections to the drawings will not be held in abeyance.

Specification

2.   The proposed specification corrections filed on 10/19/2004 have been accepted by the Examiner. The corrections to the specification will not be held in abeyance.

Terminal Disclaimer

3.   The terminal disclaimer filed on 10/19/2004 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date of any patent granted on Application No. 09/780,755 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

4.   Applicant's arguments with respect to claims 1, 9-11, 19 and 20 have been considered but

are moot in view of the new ground(s) of rejection.

Claim Objections

5.   Claim **19** is objected to because of the following informalities: statutory subject matter

inconsistency—line 1 of the claim recites, "A system…" whereas line 3 recites "…said method".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

7.   Claim **19** recites the limitation "said method" in line 3 of the claim. There is insufficient

antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

9.   Claims **1, 19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Belair* (USPN 6,212,613) in view of *Albert et al* (USPN 6,650,641).

a.   **Per claim 1**, *Belair* teaches a computer system for a client network address translation (NAT) pool, said computer system comprising:

- a memory pool (**Abstract, col.6 lines 13-67 and col.12 lines 37-58; provision for memory spaces**);

- a control block, said control block constructed and arranged to contain at least one parameter, said control block containing an address for said memory pool, said control block identifying client NAT addresses for the computer system determined prior to allocation of said memory pool(**Abstract, col.3 lines 47-58, col.4 lines 15-33, col.6 lines 57-67, col.7 lines 18-60 and col.12 lines 52-58; shadow translation table and mapping circuit generate address mapping which maps an address range to a portion of the memory**);

- a pool header for said memory pool, said pool header having a pointer (**col.7 lines 38-60, col.9 lines 34-47 and col.10 line 59-col.11 line 11; memory is addressable via virtual addresses referencing/pointing to other virtual address spaces**); and

- at least one subpool header, said subpool header being pointed to by said pointer of said memory pool, said at least one subpool header having a pointer to a subsequent subpool header, said subpool header further having subpool memory of fixed block storage having at least one fixed block that corresponds to a connection block populated with a particular ones of said client NAT addresses identified by said control block (**col.3 lines 11-67, col.5 lines 11-35, col.6 lines 52-67, col.7 line 1-col.8 line 12, col.9 lines 34-55 and col.11 line 56-col.12 line 3; the translation lookaside buffer and shadow memory achieve functions of subpool header—as a subspace of the memory, has entries for storing address mappings for address translation with fixed storage sizing**);

- wherein an individual said connection block may be either free or allocated, but said particular ones of said client NAT addresses remain allocated in said subpool memory until all of said connection blocks of said subpool memory are free (**col.3 lines 26-55, col.4 lines 18-41, col.8 lines 18-24 and col.10 line 35-col.11 line 11; an address range maps to a portion of the memory and the addresses remain allocated until the allocated portion of memory becomes deallocated**).

Yet *Belair* fails to explicitly teach the limitation of claim 1 of the subpool memory having at least one fixed block that corresponds to at connection block used for server load balancing. However, *Albert et al* disclose service manager devices with the capability to provide load balancing, wherein the service manager selects a machine to handle each connection and directs the forwarding agents to transmit the data to the selected device using NAT. Furthermore, the forwarding agent includes a user interface providing users with the ability to input their configuration preferences for the forwarding agent (**col.6 line 46-col.8 line 54, col.9 lines 46-53, col.10 line 57-col.11 line 61, col.13 line 1-col.14 line 12, col.15 line 1-col.16 line 26 and col.21 line 1-col.25 line 21**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Belair* and *Albert et al* for the purpose of providing a load distribution across the networked servers; because it would aid in the effectiveness of the allocation and translation scheme of the NAT system for allocation/access to services in the network.

b.   **Claims 19 and 20** contain limitations that are substantially equivalent to claim 1 and are therefore rejected under the same basis.

c.   **Per claim 9,** *Belair* teaches the system as in Claim 1, wherein said control block has an interval list address (**col.6 line 57-col.7 line 43 and col.12 lines 52-58; the translation lookaside buffer and shadow memory comprise a table/list of entries**).

d.   **Per claim 10,** *Belair* teaches the system as in Claim 9, wherein said interval list address has at least one interval list element (**col.12 lines 52-58 and col.7 lines 1-43; each entry of the translation lookaside buffer contains address fields, a tag field and a valid field**).

e.   **Per claim 11,** *Belair* teaches the system as in Claim 10, wherein said interval list element has a pointer to a next interval list element **(col.4 lines 1-15 and col.10 lines 21-58; the entries in the table/list are processed in successive order).**

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a.   *Srisuresh et al* (USPN 6,058,431) disclose a system and method for network address translation as an external service in the access server of a service provider.
b.   *Connors et al* (USPN 5,559,980) disclose a method and apparatus for detecting references to deallocated memory in a dynamic memory allocation system.
c.   *Arrow et al* (USPN 6,154,839) disclose translating packet addresses based upon a user identifier.
d.   *Brendel et al* (USPN 5,774,660) disclose a WWW server with delayed resource-binding for resource-based load balancing on a distributed resource multi-node network.
e.   *Mohamed et al* (USPN 5,899,994) disclose flexible translation storage buffers for virtual address translation.
f.   *Schutte et al* (USPN 6,178,455) disclose a router, which dynamically requests a set of logical network addresses and assigns addresses in the set to hosts connected to the router.
g.   *Greiner et al* (USPN 6,286,089) disclose a coupling facility using dynamic address translation.
h.   *Sinclair et al* (USPN 6,725,321) disclose a memory system.
i.   *Bal et al* (USPN 6,457,061) disclose a method and apparatus for performing internet network address translation.

11.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.   Accordingly, **THIS ACTION IS MADE FINAL.**   See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The

examiner can normally be reached on Monday-Friday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie Shingles
Examiner
Art Unit 2141

kds

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER